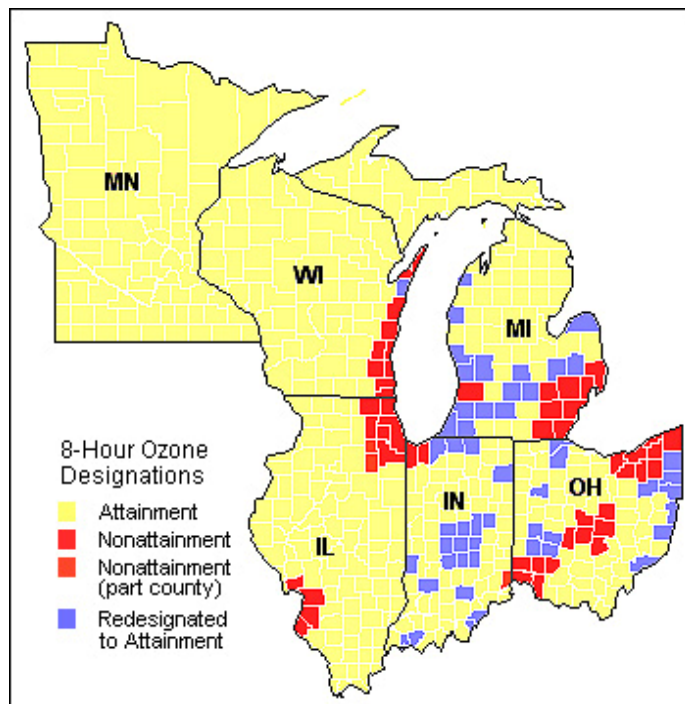


## Nonattainment Fact Sheet – 2009

### Northeast Ohio Violates New U.S. EPA Air Quality Standards

Midwestern nonattainment areas  
designated for the 8-Hour Ozone NAAQS of 1997  
(USEPA [www.epa.gov](http://www.epa.gov) September 2008)



#### Ozone

On April 15, 2004, the eight counties of Northeast Ohio were declared by the United States Environmental Protection Agency (USEPA) to be a "moderate ozone nonattainment area" under the 1997 federal 8-hour ozone standard. Ozone is the primary component of smog. The designation included Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, and Summit Counties.

This designation meant that the 8 counties failed to meet the health-based air quality standards for ozone under the federal Clean Air Act. A Vehicle Inspection & Maintenance Program (E-Check) is required for moderate ozone nonattainment areas. The health-based limits are called the "National Ambient Air Quality Standards" or NAAQS.

#### New Ozone Standards from USEPA

On March 12, 2008, USEPA significantly strengthened the NAAQS for ground-level ozone, moving the standard from 84 parts per billion (ppb) to 75 ppb, on a 3-year rolling average. USEPA has indicated that Northeast Ohio also does not meet the new, stricter standard, and that it is likely that all 8 counties will once again be designated "nonattainment" for ozone. The new boundary designations, however, are not expected until 2010, and a compliance date of 2013 is anticipated.

June 2010 is the date for attaining the previous ozone NAAQS. As of the close of the 2008 ozone season, Northeast Ohio showed 3-year air monitor data attaining the older standard of 84 ppb. The Ohio Environmental Protection Agency (Ohio EPA) has submitted demonstration documentation to USEPA to show that the older standard has been met, and the USEPA has proposed to accept it (June 16, 2009).

After the successful attainment of the prior standard, the region will have to turn its sights immediately to meeting the newer, more stringent NAAQS.

### **WHAT IS OZONE?** (Source: USEPA [www.epa.gov](http://www.epa.gov) 2009)

- ❖ Ozone is found in two regions of the Earth's atmosphere – at ground level and in the upper regions of the atmosphere. Both types of ozone have the same chemical composition (O<sub>3</sub>). While upper atmospheric ozone forms a protective layer from the sun's harmful rays, ground level ozone is the primary component of smog.
- ❖ Ground-level ozone is not emitted directly into the air, but forms through a reaction of nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs) in the presence of sunlight.
- ❖ Emissions from industrial facilities and electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents are the major man-made sources of NO<sub>x</sub> and VOCs.
- ❖ Because sunlight and hot weather accelerate its formation, ozone is mainly a summertime air pollutant. Both urban and rural areas can have high ozone levels, often due to transport of ozone or its precursors (NO<sub>x</sub> and VOCs) from hundreds of miles away.

### **OZONE AND PUBLIC HEALTH** (Source: USEPA [www.epa.gov](http://www.epa.gov) 2009)

- ❖ Health effects associated with exposure to ground-level ozone include:
  - Reduced lung function, making it more difficult for people to breathe as deeply and vigorously as normal.
  - Irritated airways, causing coughing, sore or scratchy throat, pain when taking a deep breath and shortness of breath.
  - Increased frequency of asthma attacks.
  - Inflammation of and damage to the lining of the lung.
  - Increased susceptibility to respiratory infection.
  - Aggravation of chronic lung diseases such as asthma, emphysema and bronchitis.
- ❖ For more information go to: <http://www.epa.gov/groundlevelozone>

### **BENEFITS OF REDUCING OZONE** (Source: USEPA [www.epa.gov](http://www.epa.gov) 2009)

- ❖ USEPA estimates that the revised ozone standards will yield health benefits valued between \$2 billion and \$17 billion. Those benefits include preventing cases of bronchitis, aggravated asthma, hospital and emergency room visits, nonfatal heart attacks and premature death, among others.
- ❖ In addition, new scientific evidence since the last review of the ozone NAAQS continues to show that repeated exposure to ozone damages sensitive vegetation and trees, including those in forests and parks, leading to reduced growth and productivity, increased susceptibility to disease and pests, and damaged foliage.

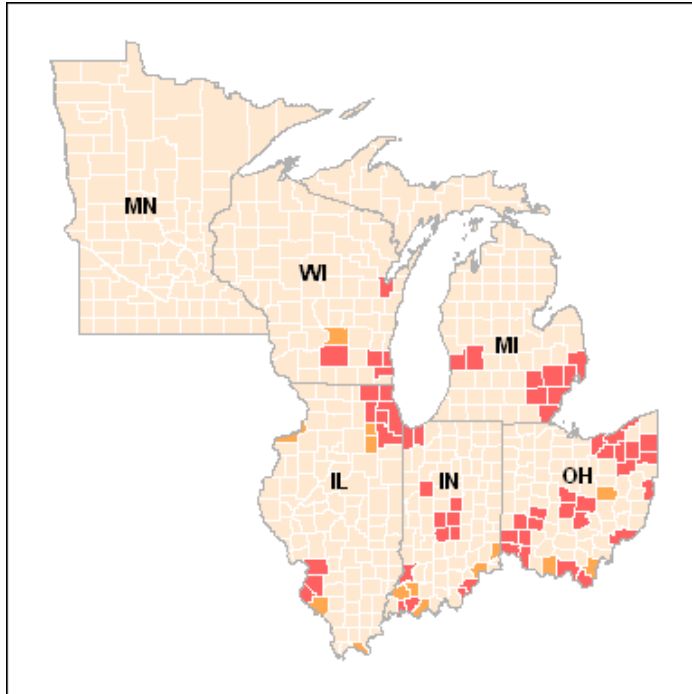
### **OZONE SOLUTIONS**

USEPA has issued a number of rules that will help states make progress toward meeting the revised ozone standards. These rules include the Clean Air Interstate Rule (CAIR) to reduce ozone-forming emissions from power plants in the eastern United States, and the Clean Diesel Program to reduce emissions from highway, nonroad and stationary diesel engines nationwide. See: [www.epa.gov/ozonedesignations](http://www.epa.gov/ozonedesignations).

In addition, the Ohio EPA has promulgated rules that govern the formulation of paints, varnishes, consumer products such as hairspray, plus controls on auto-body paint sprayers, large industrial sources and some smaller sources. Ohio EPA also has changed the design of gas cans to prevent vapor release.

NOACA recommended further measures for the State Implementation Plan (SIP), which can be found at [www.noaca.org/siplan.html](http://www.noaca.org/siplan.html). NOACA encourages fuel conservation measures, including the use of public transit, walking, bicycling, and carpooling through Ohio Rideshare ([www.OhioRideshare.com](http://www.OhioRideshare.com)).

Midwestern areas designated for the new Fine Particulate Matter (PM<sub>2.5</sub>) NAAQS of 2006 ( USEPA [www.epa.gov](http://www.epa.gov) December 2008)



### **Particulate Matter**

On December 17, 2004, the USEPA designated Ashtabula Township and Cuyahoga, Lake, Lorain, Medina, Portage, and Summit Counties as a "basic nonattainment area" under the 1997 annual fine particle standard.

Particulate matter of less than 25 micrometers in diameter (PM<sub>2.5</sub>) is a component of sooty air pollution caused by motor vehicles, fuel combustion, and coal-fired power plants.

The federal Clean Air Act requires states to take steps to control fine particle pollution. These may include stricter controls on industrial facilities and additional measures for transportation-related sources (cars, trucks, buses, motorcycles, boats, ships, trains, and diesel off-road equipment).

### **New Fine Particle Standards from USEPA**

The compliance date for the *annual* standard described above (15 µg/m<sup>3</sup>) is April 2010, and as of the close of 2008 Northeast Ohio had not yet met that standard. However, each year of data changes the rolling 3-year average, and much progress has been made.

On September 21, 2006, USEPA revised the NAAQS for PM<sub>2.5</sub> by significantly strengthening the *24-hour* standard from 65 micrograms per cubic meter (µg/m<sup>3</sup>) to 35 µg/m<sup>3</sup>, on a 3-year rolling average. On December 22, 2008, the USEPA designated Cuyahoga, Lake, Lorain, Medina, Portage, and Summit Counties as a "basic nonattainment area" under the new standard.

Ohio EPA must submit a State Implementation Plan (SIP) to USEPA by April 2012 for the new *24-hour* standard. Areas are required to attain clean air by April 2014.

This gives Northeast Ohio two deadlines for attainment purposes, 2010 and 2014. But the measures being implemented for the previous standard will also help to attain the new standard.

### **WHAT IS FINE PARTICLE POLLUTION?** (Source: USEPA [www.epa.gov/pmdesignations](http://www.epa.gov/pmdesignations) 2009)

- ❖ Particle pollution is a mixture of microscopic solids and liquid droplets suspended in air. This pollution, also known as particulate matter, is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, soil or dust particles, and allergens (such as fragments of pollen or mold spores).
- ❖ Fine particle pollution can be emitted directly or formed secondarily in the atmosphere. Examples: Sulfates are a type of secondary particle formed from sulfur dioxide emissions from power plants and industrial facilities. Nitrates, another a type of fine particle, are formed from emissions of nitrogen oxides from power plants, automobiles, and other combustion sources. The chemical composition of particles depends on location, time of year, and weather.

### **FINE PARTICLES AND PUBLIC HEALTH** (Source: USEPA [www.epa.gov/pmdesignations](http://www.epa.gov/pmdesignations) 2009)

- ❖ Thousands of scientific studies have linked exposure to these tiny particles - approximately 1/30th the size of a human hair - with serious human health problems including premature death in people with heart and lung disease; nonfatal heart attacks; and increased hospital admissions and doctor and emergency room visits for respiratory and cardiovascular disease.
- ❖ Individuals that may be particularly sensitive to fine particle exposure include people with heart or lung disease, older adults, and children.

### **FINE PARTICLE SOLUTIONS** (Source: USEPA [www.epa.gov/pmdesignations](http://www.epa.gov/pmdesignations) 2009)

- ❖ Efforts by states and local governments will help to reduce unhealthy levels of fine particle pollution. And USEPA's Clean Diesel Program is helping to reduce fine particle pollution across the country from highway, nonroad and stationary diesel engines.
- ❖ The USEPA CAIR program for coal-fired power plants will assist, as will such local initiatives as anti-idling policies and the use of alternative modes of transportation.
- ❖ Nonattainment areas must also implement "transportation conformity," which requires local transportation and air quality officials to coordinate planning to ensure that transportation-related emissions from projects, such as road construction, do not interfere with an area's ability to reach its clean air goals.

For NOACA's recommendations to Ohio EPA, please visit: [www.noaca.org/pmsipplan.html](http://www.noaca.org/pmsipplan.html)

### **What Are the Impacts of Nonattainment, Beyond Public Health?**

Nonattainment areas are subject to new source review requirements, under the federal Clean Air Act. "New Source Review" is a federal/state permitting program for industrial facilities to ensure that new and modified sources of pollution do not impede progress toward cleaner air. These sources must obtain air pollution "offsets" before they can emit pollution in the nonattainment area. Failure to adequately plan for attainment can also result in the loss of some types of federal highway funds as a sanction on the state.

### **Has Northeast Ohio's Air Gotten Cleaner?**

Yes. Monitor data, as collected by the Ohio EPA, the Cleveland Division of Air Quality, the Lake County General Health District, and the Akron Regional Air Quality Management District, shows that Northeast Ohio's air has improved a great deal over time. But the USEPA standards have simultaneously become stricter, resulting in new nonattainment designations for the region. See the annual Air Quality Trends Reports at [www.noaca.org](http://www.noaca.org) for more information.

### **Where Do I Go For Further Information?**

Visit NOACA's web pages at [www.noaca.org/sipplan.html](http://www.noaca.org/sipplan.html) and [www.noaca.org/pmsipplan.html](http://www.noaca.org/pmsipplan.html) or call Amy Wainright, Environmental Planner, NOACA, (216) 241-2414 x252

Visit USEPA's Ozone webpage at <http://www.epa.gov/ozonedesignations>

Visit USEPA's PM<sub>2.5</sub> webpage at <http://www.epa.gov/pmdesignations>